

REMARKS

Claims 1, 3-4, 6-7, 9, 14, 19, 21-26, and 31-34 are amended, claims 5 and 8 are canceled in this response, and no claims are added; as a result, claims 1-4, 6-7, 9-26, and 31-35 are now pending in this application.

No new matter has been added through the amendments to claims 1, 3-4, 6-9, 14, 19, 21-26, and 31-34. Support for the amendments to claims 1, 3-4, 6-9, 14, 19, 21-26, and 31-34 may be found throughout the specification, for example but not limited to the specification at page 6, line 5 through page 8, line 4 and at page 9, line 15 through page 11, line 19.

§103 Rejection of the Claims

Claims 1-26 and 31-35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tadauchi et al. Claims 5 and 8 are canceled, so the rejection of claims 5 and 8 is moot. Applicants respectfully traverse the rejection of claims 1-4, 6-7, 9-26, and 31-35.

Although not specifically stated in the currently pending Office Action¹, Applicants assume that the 35 U.S.C. § 103(a) rejection is based on United States Patent Number 6,123,248 to Tadauchi et al., as this was the basis for the rejections of the pending claims in the previous Office Action² in this application. However, if this assumption is incorrect, Applicants request clarification and correction as to the basis for the rejection, and reserve the right to add to this response at a later date based on any clarification or correction that may be provided.

Applicants further note that MPEP 706.02(j) requires that a reference be positively included in the statement of the rejection. See *In re Hoch*, 428 F.2d 1341, 1342 n.3 166 USPQ 406, 407 n. 3 (CCPA 1970).

Applicants maintain each of the objections from Applicants' previous response³ regarding the failure of the previous Office Action,⁴ and now the currently pending Office Action⁵, to show were in Tadauchi et al. there is a teaching or suggestion of the subject matter included in the pending claims. In Applicants' previous response noted above, Applicants requested that the

¹ See the Office Action mailed November 29, 2006 in this application.

² See the Office Action mailed July 17, 2003 in this application.

³ See pages 8-13 of Applicants previous response mailed November 1, 2004 in this application.

⁴ See footnote 2.

⁵ See footnote 1.

Examiner provide either references that teach or suggest the subject matter included in the pending claims and missing from Tadauchi et al., or in the alternative provide affidavits describing how the missing subject matter is present in the prior art.

Since neither of these requirements appears have been incorporated into the currently pending Office Action, Applicants again request that the Examiner provide either references teaching or suggesting all of the subject matter included in pending claims 1-4, 6-7, 9-26, and 31-35, or affidavits showing how the subject matter missing from Tadauchi et al. is present in the prior art. If the Examiner cannot provide such references or affidavits, Applicants respectfully request withdrawal of the rejection, and allowance of all claims now pending in the application.

Applicants further submit that Tadauchi et al. fails to teach or suggest all of the subject matter as include in independent claims 1, 9, 19, 23, and 33 as these claims are now amended. For example:

Independent claim 1 as now amended includes:

A method comprising:

placing a predetermined solder pattern **in a shape of a symbol** onto a pad provided on a substrate;
heating said predetermined solder pattern **and turning the solder pattern to a liquid state; and cooling the predetermined solder pattern, turning the heated and cooled predetermined solder pattern to a solid state;**

wherein a visual appearance of said heated **and cooled** predetermined solder pattern is indicative of whether a **solder paste used to form the predetermined solder pattern is lead-free by maintaining a substantially same pattern as the symbol of said predetermined solder pattern after heating and cooling the predetermined solder pattern when the solder paste used to form the predetermined solder pattern is lead-free.**

(Emphasis added to indicate amendments to the claim included in this response).

Independent claim 9 as now amended includes:

A method comprising:

providing a pad on a substrate;
placing solder on said pad; and
heating said solder so as to create reflow; **and**

cooling said solder after the reflow is completed;

wherein a visual appearance of said heated and **cooled** solder **is** indicative of whether said solder is lead-free based on the amount of reflow of said solder on said pad.

(Emphasis added to indicate amendments to the claim included in this response).

Independent claim 19 as now amended includes:

A method of identifying whether a printed circuit board is lead-free, said method comprising:

receiving said printed circuit board having a heated solder pattern formed thereon; and

identifying whether solder on said printed circuit board is lead-free based on whether said heated **and cooled** solder pattern is substantially similar to a predetermined solder pattern.

(Emphasis added to indicate amendments to the claim included in this response).

Independent claim 23 as now amended includes:

A method of identifying whether a printed circuit board is lead-free, said method comprising:

receiving said printed circuit board having a heated and **then cooled** solder pattern formed **on a pad** thereon; and

identifying whether solder on said printed circuit board is lead-free based on a distance that said solder **pattern** reflows **by comparing the distance that said solder pattern reflows with at least one visual indicator provided at a certain location along the pad on said printed circuit board.**

(Emphasis added to indicate amendments to the claim included in this response).

Independent claim 33 as now amended includes:

A method comprising:

placing **a solder paste in** a predetermined solder pattern onto a pad on a substrate **having a first visual indicator along side the pad including the words "LEAD-FREE BOARD" and a second visual indicator along side the pad including the words "LEAD BOARD" and a third visual indicator along side the pad and between the first visual indicator and the second visual indicator;**

heating **and cooling** said predetermined solder pattern; and

determining that said solder is lead-free if said predetermined solder pattern after heating and cooling reflows a distance along the pad that does not extend to an area adjacent to the second visual indicator.

(Emphasis added to indicate amendments to the claim included in this response).

Applicants have carefully reviewed Tadauchi et al., and fail to find in Tadauchi et al. a teaching or suggestion of at least this subject matter as included in independent claims 1, 9, 19, 23, and 33 as now pending in the application. Further, the Office Action fails to show where in Tadauchi et al., or in any other evidence of record, there is a teaching or suggestion of this subject matter. Because this subject matter is not taught or suggested by Tadauchi et al., independent claims 1, 9, 19, 23, and 33 are not obvious in view of Tadauchi et al.

Claims 2-4, 6-7, 10-18, 20-22, 24-26, and 31-35 depend from one of independent claims 1, 9, 19, 23, and 33, and so include all of the subject matter included in the independent claim from which they depend, and more. For at least the reasons stated above with respect to independent claims 1, 9, 19, 23, and 33, claims 2-4, 6-7, 10-18, 20-22, 24-26, and 31-35 are not obvious in view of Tadauchi et al.

Applicants respectfully request reconsideration and withdrawal of the rejection, and allowance of claims 1-4, 6-7, 9-26, and 31-35.

Reservation of Rights

In the interest of clarity and brevity, Applicants may not have addressed every assertion made in the Office Action. Applicants' silence regarding any such assertion does not constitute any admission or acquiescence. Applicants reserve all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicants do not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence

of record as manifested by a cited prior art reference, Applicants timely object to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicants reserve all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

Conclusion

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney (612-371-2132) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 28th day of February 2007.

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